

Applicants : BAHIR & BEN-SASSON Atty. Dkt. No. : 1120-PCT-US
USSN : 10/550,870 Art Unit : 1638
Filed : 7/24/2006 Date of office action : 3/20/2008
Examiner : Li Zheng Date of response : 7/21/2008
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Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-48. (Cancelled)

49. (New) A method for generating genetically diverse plants via incorporation of exogenous micro-satellite (MS) sequences into the plant genome, said method comprises the steps of:

- (a) obtaining MS-like DNA fragments comprising a monotonous repeat of two to six nucleotides, wherein the repeat is selected from the group consisting of AT/TA, AG/CT, AAG/CTT, CGG/CCG, ATCG/CGAT, AAAT/ATTT, AAGTTC/GAACTT, CTG/CAG, TTTA/TAAA, CT/AG, and TTC/GAA;
- (b) introducing said DNA fragments into plant cells;
- (c) selecting the plant cells containing said DNA fragments; and
- (d) cultivating the selected plant cells, thereby generating genetically diverse plants.

50. (New) The method of claim 49, wherein the MS-like DNA fragments comprise sequences selected from the group consisting of SEQ ID NOS. 1-5.

51. (New) The method of claim 49, wherein the repeat has a length of about 70 to about 120 nucleotides long.

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52. (New) The method of claim 49, wherein optionally the MS-like DNA fragments obtained in step (a) are ligated into vectors and then proceed to step (b).

53. (New) The method of claim 49, wherein the MS-like DNA fragments are introduced concomitantly with a selective marker.

54. (New) The method of claim 53, wherein the selective marker is a gene that confers resistance to an antibiotic, a herbicide or a metabolic inhibitor.

55. (New) The method of claim 53, wherein the selective marker is a kanamycin resistant gene.

56. (New) The method of claim 49, wherein the MS-like DNA fragments are introduced via any one of electroporation, chemical means or liposomes.

57. (New) The method of claim 49, wherein the MS-like DNA fragments are introduced by a genetic vehicle selected from the group consisting of a plasmid and a viral vector.

58. (New) The method of claim 49, wherein the generation of genetically diverse plants further comprises generation of one of cells, seeds or progeny of said plants.

59. (New) A plant produced by the method of claim 49, and cells, seeds and progeny thereof.

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60. (New) A method for generating genetically diverse plants via incorporation of exogenous micro-satellite (MS) sequences into the plant genome, said method comprises the steps of:

- (a) obtaining MS-like DNA fragments comprising a monotonous repeat of two to six nucleotides, wherein the repeat has a length of about 70 to about 120 nucleotides long;
- (b) introducing said DNA fragments into plant cells;
- (c) selecting the plant cells containing said DNA fragments; and
- (d) cultivating the selected plant cells, thereby generating genetically diverse plants.

61. (New) The method of claim 60, wherein the repeat is selected from the group consisting of AT/TA, AG/CT, AAG/CTT, CGG/CCG, ATCG/CGAT, AAAT/ATTT, AAGTTC/GAACTT, CTG/CAG, TTTA/TAAA, CT/AG, and TTC/GAA

62. (New) The method of claim 60, wherein the MS-like DNA fragments comprise sequences selected from the group consisting of SEQ ID NOS. 1-5.

63. (New) The method of claim 60, wherein optionally the MS-like DNA fragments obtained in step (a) are ligated into vectors and then proceed to step (b).

64. (New) The method of claim 60, wherein the MS-like DNA fragments are introduced concomitantly with a selective marker.

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65. (New) The method of claim 64, wherein the selective marker is a gene that confers resistance to an antibiotic, a herbicide or a metabolic inhibitor.

66. (New) The method of claim 60, wherein the MS-like DNA fragments are introduced by a genetic vehicle selected from the group consisting of a plasmid and a viral vector.

67. (New) The method of claim 60, wherein the generation of genetically diverse plants further comprises generation of one of cells, seeds or progeny of said plants.

68. (New) A plant produced by the method of claim 60, and cells, seeds and progeny thereof.